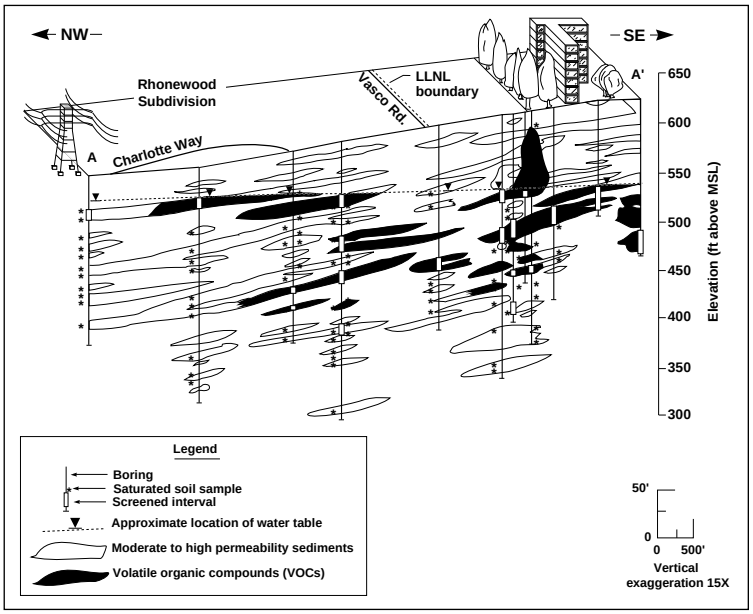
Site Characterization Technology

Expert characterization of contaminated and uncontaminated areas

At LLNL, we have the capabilities to investigate, monitor, and remediate areas contaminated with hazardous or radioactive materials. These capabilities can also be used to monitor areas where current operations might pose a threat of contamination or to characterize uncontaminated areas proposed for waste disposal.



Generalized geologic section showing geologic and chemical complexity of the subsurface west of LLNL.

Many years of experience

LLNL has more than 30 years of experience in site characterization and related activities. A unique feature of LLNL is its ability to quickly assemble multidisciplinary teams to address complex problems. The technologies and expertise for site characterization reside in several organizations:

APPLICATIONS

- *Remediation technology*
- *Risk assessment*
- *Geohydrological investigations*
- *Hazardous and radioactive sample analysis*

- Laboratories in Chemistry & Materials Science can perform elemental and compositional analyses of samples in the solid, liquid, or gaseous phase. This information is essential to clearly define the nature and extent of an environmentally related problem so that sound and appropriate remediation strategies can be employed.
- The Environmental Protection Department has the shallow-drilling and sample-collection capability required at most sites.
- Isotope Sciences Division has facilities to handle all types of radioactive samples, from samples with activity levels at, or even below, background levels to those with concentrations high enough to pose a potential health hazard.
- Health and Ecological Assessment's primary expertise lies in hazards assessment and modeling. They also have a strong research program that focuses on the application of in-situ bioremediation techniques and the development of fiber-optic remote sensors for field use.
- Earth Science personnel are experts in geohydrological investigations and modeling.

The Livermore site is the only active DOE site that has developed and documented a restoration plan for the site (Record of Decision, UCRL-AR-109105) that is acceptable to both the public and the appropriate regulatory agencies (e.g., U.S. and State of California EPA and the Regional Water Quality Board).

Availability: LLNL's site characterization capabilities are available to organizations interested in applying our multidisciplinary approach to environmental problems of national or international interest.

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